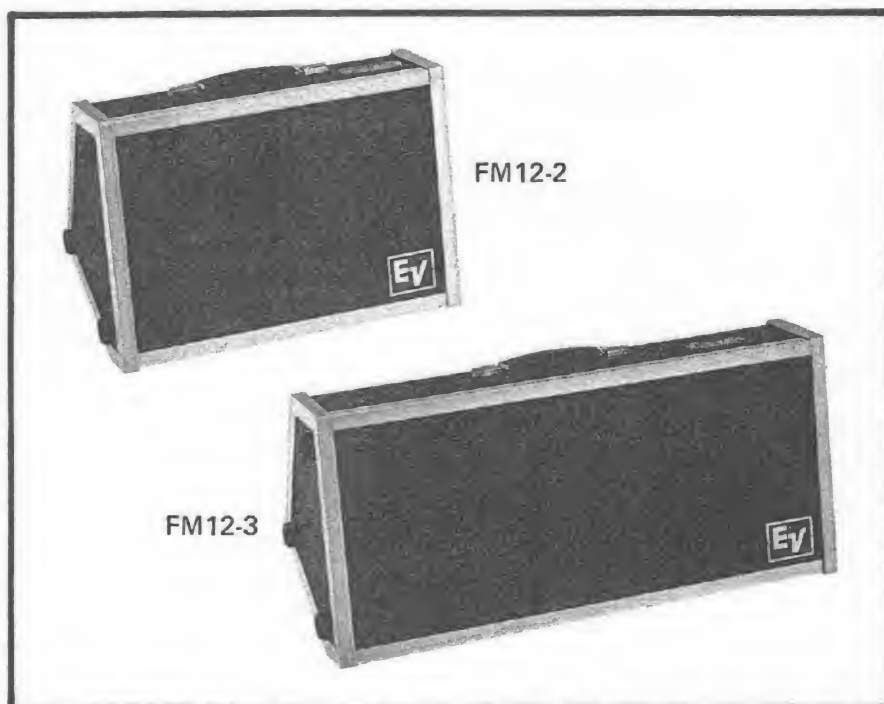


OBSOLETE



**Electro-Voice®**  
a gulton company

## Model FM12-2/FM12-3 Floor Monitor Speaker Systems

### SPECIFICATIONS

#### Usable Frequency Response,

##### FM12-2:

90 Hz to 16 kHz

##### FM12-3:

80 Hz to 16 kHz

#### Sound Pressure Level,

##### FM12-2:

4 ft. at 100 Watts Input\*

115 dB

10 ft. at 1 Watt Input\*

87 dB

##### FM12-3:

4 ft. at 100 Watts Input\*

116 dB

10 ft at 1 Watt Input\*

88dB

#### Long Term Average Power Handling Capacity: \*

(24 hours of clipped, shaped random noise) 100 Watts

#### Nominal Impedance:

8 Ohms

#### Minimum Impedance,

##### FM12-2:

7.5 ohms

##### FM12-3:

5.5 ohms

#### Crossover Frequencies,

##### FM12-2:

5000 Hz

##### FM12-3:

1000 Hz & 5000 Hz

#### Horizontal Beamwidth,

##### FM12-2:

2 kHz — 70°

4 kHz — 45°

#### Horizontal Beamwidth,

##### FM 12-3:

2 kHz — 130°

4 kHz — 90°

#### Vertical Beamwidth,

##### FM12-2:

2 kHz — 75°

4 kHz — 53°

##### FM12-3:

2 kHz — 130°

4 kHz — 105°

#### Connections:

Parallel 1/4" Phone Jacks (Allows paralleling of multiple speakers.)

#### Finish:

Black Vinyl with Aluminum Trim

#### Dimensions,

##### FM12-2:

38.1 cm (15") high

33.7 cm (13.25") deep

55.6 cm (21.88") long

##### FM12-3:

38.1 cm (15") high

33.7 cm (13.25") deep

81.0 cm (31.88") long

#### Weight,

##### FM12-2:

22.2 kg (49 lbs)

##### FM12-3:

31.3 kg (69 lbs)

#### Optional Accessories:

Model 480 stand

\*See POWER HANDLING TEST for input spectrum.

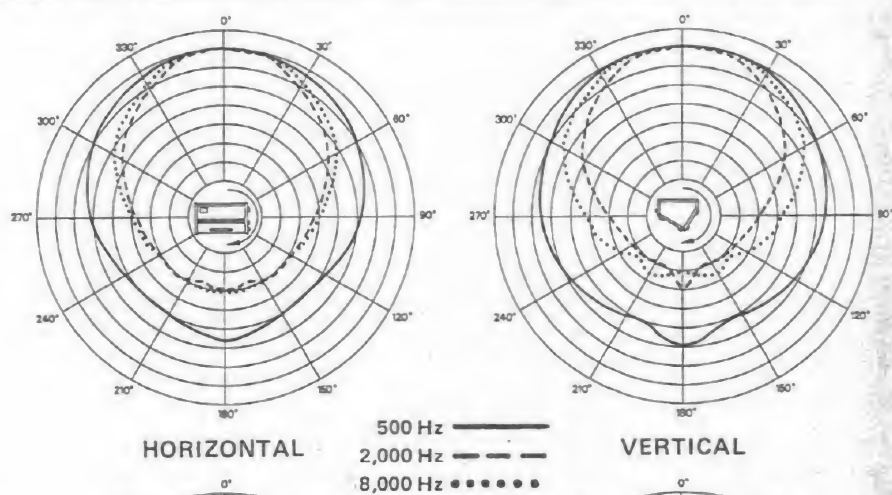
### DESCRIPTION

The Electro-Voice Model FM12-2, two-way floor monitor, and the Electro-Voice Model FM12-3, three-way floor monitor are small, accurate monitor speaker systems that can be oriented in four different configurations; (1) as a floor monitor with speaker axis inclined 30 degrees to the floor. (2) as a floor monitor with speaker axis inclined 60 degrees to the floor. (3) as a side monitor (standing upright). (4) elevated on a stand. Both systems also incorporate new hi-frequency auto limiting as an electronic tweeter protection circuit and utilize the EVM12L woofer and T35 tweeter.

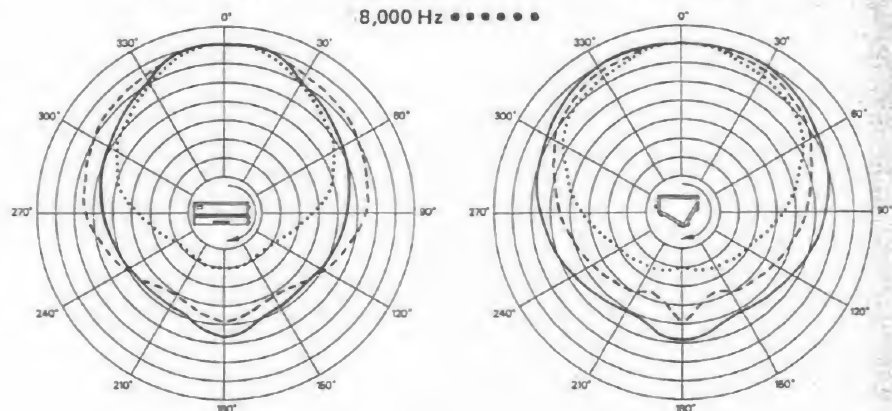
The FM12-2 is designed primarily as a vocal monitor with frequency response tailored to the most popular vocal microphones. The FM12-2 is capable of high SPL with 115 dB being generated at 4 feet with full power.

The FM12-3, three-way vocal monitor, incorporates the new Thiele-vented midrange speaker. It is said to combine the brilliance of a horn with the warmth of a cone speaker.

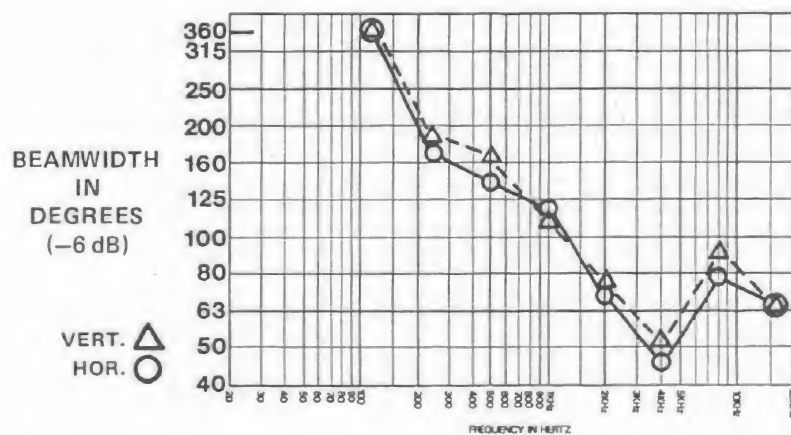
**FIGURE 4 —  
FM12-2 Polar Response  
Octave Bands of Pink Noise  
(5 dB Per Division)**



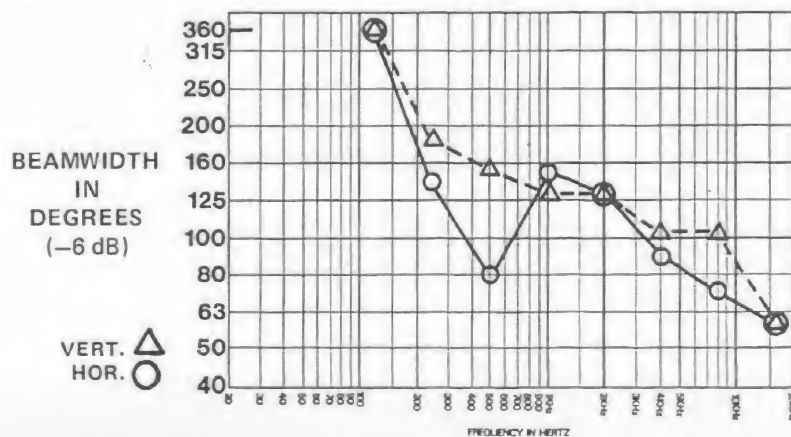
**FIGURE 5 —  
FM12-3 Polar Response  
Octave Bands of Pink Noise  
(5 dB Per Division)**

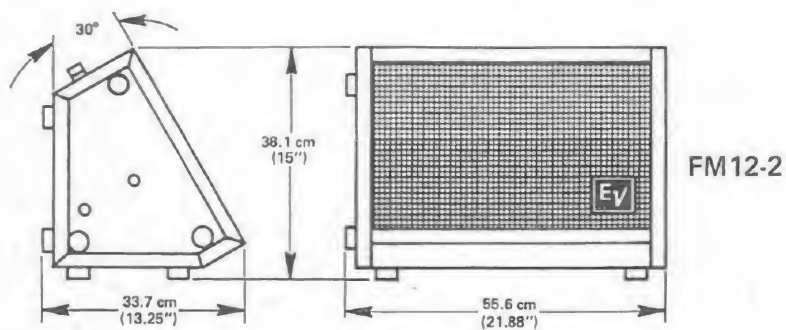


**FIGURE 6 —  
FM12-2 Beamwidth vs Frequency  
(System Long Axis Vertical)**



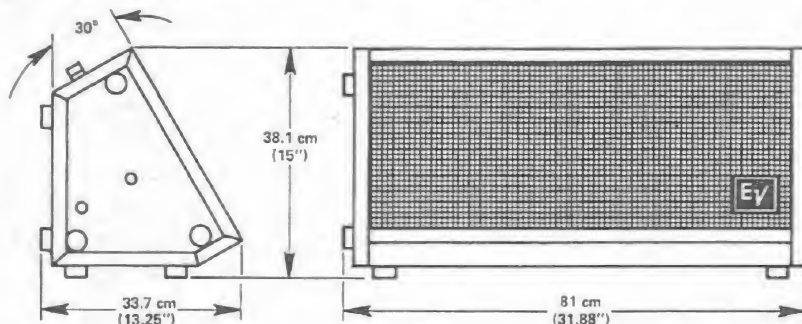
**FIGURE 7 —  
FM12-3 Beamwidth vs Frequency  
(System Long Axis Vertical)**





FM12-2

FIGURE 1 – Dimensions



FM12-3

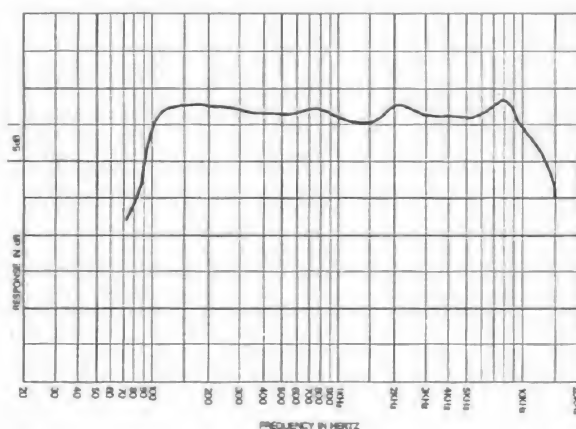


FIGURE 2 –  
FM12-2 Frequency Response  
(Swept 1/3-Octave Band Pink Noise)

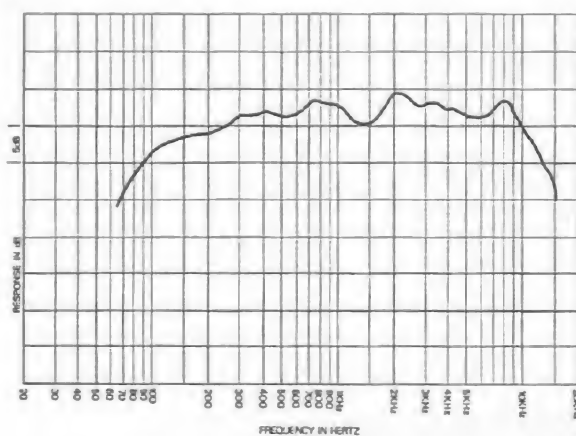


FIGURE 3 –  
FM12-3 Frequency Response  
(Swept 1/3-Octave Band Pink Noise)

Construction of the FM12-3 cabinet consists of black vinyl covering 3/4" plywood with protective extruded aluminum trim. The FM12-2 construction is black vinyl covering 3/4" particle board with protective extruded aluminum trim. Both models are provided with rubber feet on three sides to coincide with the two floor mount and side mount (upright) configurations.

#### Frequency Response

Frequency response data was measured at 10 feet on axis with 4 volts of swept 1/3 octave random noise. The frequency response curves for the FM 12-2 and FM 12-3 are shown in Figures 2 and 3.

#### DISPERSION

The polar frequency response curves for the FM12-2 and FM12-3 are given in Figures 4 and 5. For clarity, only the 500 Hz, 2 kHz, and 8 kHz frequency plots are shown. This data was taken using octave band centered pink noise with 4 volts applied to speakers and measurements were made with the speaker systems mounted in both the horizontal and vertical positions at 10 feet. From this data, the 6 dB down points were obtained and beamwidth versus frequency plots were made. This information is shown in Figures 6 and 7.

#### POWER HANDLING TEST

To our knowledge, Electro-Voice was the first U.S. manufacturer to develop and publish a power test closely related to real-life conditions. First, we use a random noise input signal because it contains many frequencies simultaneously, just like real voice or instrument program. Second, our signal contains more energy at extremely high and low frequencies than typical actual program, adding an extra measure of reliability. Third, the test signal includes not only the overall "long-term average" or "continuous" level — which our ears

interpret as loudness — but also short-duration peaks which are many times higher than the average, just like actual program. The long-term average level stresses the speaker thermally (heat). The instantaneous peaks test mechanical reliability (cone and diaphragm excursion). Note that the sine wave test signals sometimes used have a much less demanding peak value relative to their average level. In actual use, long-term average levels exist from several seconds on up, but we apply the long-term average for several hours, adding another extra measure of reliability.

The FM12-2 and the FM12-3 have been specifically tested for 24 Hours as follows. The output of a pink noise generator is fed to a shaping filter where the frequency spectrum is rolled off at 6 dB per octave beginning at 100 Hz and 10,000 Hz. (Pink noise is a particular type of random noise with equal power in every octave.) This shaped signal is sent to the power amplifier with the long-term average power set at 100 watts into 8 ohms (28.3 volts true RMS). Amplifier clipping sets instantaneous peaks at about 6 dB above the average, or 400 watts (55 volts peak). This procedure provides a rigorous test of both thermal and mechanical failure modes.

#### HI-FREQUENCY AUTO LIMITING

An all solid state electronic device designed by Electro-Voice engineers to meet the special demands of high level sound reinforcement. The Hi-Frequency Auto Limiter efficiently protects the tweeter from overloading by limiting tweeter power input to a predetermined safe level. The result is virtual absolute driver protection without audible side effects or loss of sound pressure level. This all solid state device responds instantaneously and is not dependent on slow moving mechanical parts. Hi-frequency auto limiting incorporates six solid state devices and a power resistor with appropriate heat sink.

#### MOUNTING SPEAKERS ON STAND

One end board on the FM12-2 and FM12-3 contains two 1/4-20 TEENUTS to allow mounting the speakers in a vertical position on a stand. The TEENUTS are spaced 3 inches apart to fit the EV Model 480 or the Atlas CS100 stands. (Overall height of the EV 480 stand is 58 inches and the Atlas CS100 stand is 46 inches).

#### NAMEPLATE ORIENTATION

The nameplate is positioned to read correctly when the monitors are placed in the 30° floor mount position. If the monitors are used in the 60° floor mount position, the grille screens may be turned around by removing six screws.

#### WARRANTY (Limited) —

Electro-Voice Music Loudspeaker Systems and Accessories are guaranteed for five years from date of original purchase against malfunction due to defects in workmanship and materials. If such malfunction occurs, unit will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish or appearance items or malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

For repair information and service locations, please write: Service Department, Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone 616/695-6831) or 7473 Avenue 304, Visalia, CA 93277 (209/625-1330,-1).

Electro-Voice also maintains complete facilities for non-warranty service of E-V products.

Specifications subject to change without notice.